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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,060	04/04/2001	Howard Andrew Heller	2504/0H467	2394

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EXAMINER

PEREZ DAPLE, AARON C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,060

Applicant(s)

HELLER, HOWARD ANDREW

Examiner

Aaron C. Perez-Daple

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Amendment filed 12/10/04, which has been fully considered.
2. Amended claims 1-11 are presented for examination.
3. This Action is Final.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. **Claims 1-5 and 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung et al. (US 6,466,964 B1) (hereinafter Leung) in view of Chen et al. (US 6,658,258 B1) (hereinafter Chen).
6. Leung has been cited by the Examiner in a previous Office Action.
7. **Examiner's Interpretation:** Although Leung does not use the term "proxy mobile node" (PMN), it is clear that the foreign agent (FA) of Leung contains software for performing both the traditional FA functions (as detailed in RFC 2002) and registration on behalf of the mobile node. Therefore, the FA of Leung contains software which is directly equivalent to the PMN of the presently claimed invention. In addition, the Examiner notes that any registration messages composed by the PMN equivalent software would inherently

have to be forwarded to the conventional FA protocol stack for transmission over the network.

8. As for claims 1 and 7, Leung teaches a method and system for transmitting information in a Mobile Internet Protocol (IP) network including a mobile node (MN), a base station (BS) and a home network, wherein a proxy mobile node (PMN) and a foreign agent (FA) are provided at the BS, and a home agent (HA) is provided at the home network, the method comprising the steps of:

the MN detecting the BS (MN inherently detects BS prior to sending an ARP message; col. 4, lines 2-6);

the PMN identifying the MN from link layer messages that provide an identity of the MN to the BS (col. 7, lines 1-13);

the PMN retrieving an IP address for each of the MN, FA and HA from a database based on the identity of the MN (visitor table; col. 2, lines 16-21; col. 7, lines 33-61), the MN not participating in the Mobile IP registration (col. 3, lines 4-21);

the PMN generating and sending a registration request to the FA on behalf of the mobile node (step 314, Fig. 3A);

the FA relaying the request to the HA (step 316, Fig. 3A);

the HA registering the PMN identified with the MN (col. 5, line 60 – col. 6, line 3; col. 2, lines 10-47);

the HA forwarding Mobile IP packet to the FA by encapsulating the information into at least one Mobile IP packet (col. 2, lines 10-47);

the FA unencapsulating the forwarded IP packet into original data (col. 2, lines 10-47);
and

the FA forwarding the original data to the MN (col. 2, lines 10-47).

Although Leung inherently teaches detecting the BS (access point) prior to sending an ARP message (otherwise the MN would continuously send such messages), Leung does not specifically disclose detecting the BS from a pilot signal broadcast from the BS. Chen teaches that the use of pilot signals for detecting BS proximity is well-known to those of ordinary skill in the art (col. 1, lines 41-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Leung by detecting a pilot signal broadcast from the BS in order to efficiently notify the foreign network of the MN's presence.

9. As for claims 2 and 8, Leung teaches the method and system of claims 1 and 7 further comprising the steps of:

determining whether a new base station (BS) including a new proxy mobile node (PMN) is detected from a pilot signal broadcast from the new base station (col. 4, lines 2-6; see also rejection of claims 1 and 7 above);

if it is determined that a new base station is detected,

(a) the MN transmitting link layer messages that provide the identity of the MN to the new BS (col. 7, lines 1-13);

(b) the new PMN identifying the MN from the link layer messages (col. 7, lines 1-13);

(c) the new PMN retrieving an IP address for the MN, a new foreign agent (FA), and the HA from the database based on the identity of the MN (visitor table; col. 2, lines 16-21; col. 7, lines 33-61);

(d) the new PMN generating and sending a new registration request to the new FA associated with the new BS on behalf of the mobile node (MN) (step 314, Fig. 3A);

(e) the FA relaying the new registration request to the HA (step 316, Fig. 3A);

(f) the HA registering the new proxy MN (col. 5, line 60 – col. 6, line 3; col. 2, lines 10-47); and

(f) the HA forwarding the Mobile IP packet to the new FA (col. 2, lines 10-47).

10. As for claim 3, Leung teaches the method of claim 2 further comprising the step of acknowledging the registration of step (f) (col. 4, lines 9-13).

11. As for claims 4 and 9, Leung teaches the method and system of claims 1 and 7 wherein the MN comprises customer premise equipment (CPE) and a computer (col. 1, lines 12-16).

12. As for claims 5 and 10, Leung teaches the method and system of claim 4 and 9 wherein the CPE comprises at least one of a wireless radio, personal digital assistant (PDA) and a mobile telephone, T1 line, cable modem, digital subscriber line (DSL) and asymmetric digital subscriber line (ADSL) modem (col. 1, lines 12-30; col. 18, lines 37-57).

13. **Claims 6 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung in view of Chen and in further of Perkins (“IP Mobility Support,” RFC 2002, October 1996) (hereinafter Perkins).

14. Perkins has been cited by the Examiner in a previous Office Action. In addition, Perkins has been explicitly incorporated by reference into Leung (see Leung col. 1, lines 31-38).

Therefore, the teachings of Perkins are part of the teachings of Leung and no further motivation for combination is required.

15. As for claims 6 and 11, Leung explicitly discloses a database for storing a majority of the specifically recited items, including at least an IP address of the MN, an FA address, an HA address, a care-of address, security information, an identification field, and a lifetime value (Fig. 5; col. 2, lines 16-47; col. 9, lines 16-34).

In addition, Perkins teaches the step of storing additional information for the PMN in a database wherein the additional information comprises:

- a home address which is an IP address of the MN (Section 3.7.1, IP Source Address);
- a foreign agent IP address which is an IP address of the FA (Section 3.7.2.2, IP Source Address);
- a home agent IP address which is an IP address of the HA (Section 3.7.1, the home agent address);
- a care-of address which is an IP address for a destination for the information (Section 3.7.1, destination address);
- mobile-foreign security information which is a security association between the MN and the FA (Section 3.5.3);
- mobile-home security information which is a security association between the MN and the HA (Section 3.5.2);
- an identification field value for matching registration requests and acknowledgments (Section 3.3, identification);

a lifetime value for a number of seconds allowed from the registration before the registration is considered expired (Section 3.7.1, requested lifetime); and

a current lifetime value for a number of seconds remaining before the registration is considered expired (Section 3.7.1, remaining lifetime).

Response to Arguments

16. Applicant's arguments filed 12/10/04 with respect to claim 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,456,604 B1, note teaches use of pilot signal to detect base station.
18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C. Perez-Daple whose telephone number is (571) 272-3974. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 4/26/05

Aaron Perez-Daple

